

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) An intravascular balloon catheter comprising:
a catheter body having a proximal end having a balloon inflation lumen, a distal end, and a guidewire lumen therebetween; and
a first balloon structure having a shaft, a balloon sleeve, a sleeve passage which is slidably receivable over the catheter body and disposed over the shaft, and an axial groove along at least a portion of the shaft structure and the passage to removably receive at least a portion of the catheter body.

2. (Currently Amended) An intravascular balloon catheter comprising:
a catheter body having a proximal end, a distal end, and a guidewire lumen therebetween; and
a first balloon structure having a shaft, a balloon sleeve, a sleeve passage for slidably receiving the catheter body and disposed over the shaft, and an axial groove along at least a portion of the shaft structure and the passage for slidably receiving at least a portion of the catheter body.

Claims 3.-10. (Canceled)

11. (Currently Amended) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body comprises a tubular member having at least one lumen in addition to the guidewire lumen.

12. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein a perimeter of the catheter body has a circular, oblong, or elliptical shape.

13. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the distal end of the catheter body is axially tapered for a length of at least 3 mm.

14. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the distal end of the catheter body is axially tapered for a length of at least 0.5 mm.

15. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the distal end of the catheter body is axially tapered for a length of at least 0.1 mm.

16. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, further comprising an atraumatic tip at the distal end of the catheter body.

17. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure distal end is distally tapered.

18. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body is formed at least in part from a polymer material, a composite material, a braided material, a metal material, or a metal alloy.

Claim 19. (Canceled)

20. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body is formed from a metal alloy comprising a nickel titanium alloy.

21. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body comprises multiple tubular members coupled to one another.

22. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure shaft includes an inflation lumen extending at least along a portion thereof.

23. (Original) An intravascular balloon catheter as in Claim 22, wherein the shaft has sufficient column strength to advance the balloon structure over the catheter body.

Claims 24.-25. (Canceled)

26. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure comprises a distal section having an inflatable member disposed thereat, and a lumen comprising an inflation lumen extending proximally from the inflatable member.

27. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure comprises a distal section having an inflatable member disposed thereat, and the passage at least in part extends proximally from the inflatable member.

28. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure comprises a distal section having an inflatable member disposed thereat, and the passage at least in part extends distally from the inflatable member.

Claims 29.-30. Canceled)

31. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the groove has a length in the range from 10 cm to 150 cm and an opening in the range from 0.001 inches to 0.014 inches.

32. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the inflation lumen has a length in the range from 10 cm to 150 cm.

Claims 33.-34. (Canceled)

35. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body is substantially free from structure at the proximal end which would interfere with passage of the balloon structure over the proximal end of the catheter body.

Claims 36.-44. (Canceled)

45. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body has a length in the range from 50 cm to 200 cm, and outer diameter in the range from 1 F to 10 F, and a guidewire lumen diameter in the range from 0.2 mm to 2 mm.

46. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure further comprises an inflatable balloon disposed over an outer surface of the sleeve, wherein the passage is formed axially in the sleeve.

47. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure further comprises an inflatable balloon disposed over at least a portion of the sleeve, wherein the passage is an axial passage distal to a balloon chamber.

48. (Original) An intravascular balloon catheter as in Claim 46, wherein the sleeve has a length in the range form 3 cm to 50 cm and the inflatable balloon has a length in the range from 1 cm to 5 cm.

Claims 49.-68. (Canceled)

69. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the guidewire lumen extends from the catheter body proximal end to a distal tip at the catheter body distal end.

Claim 70. (Canceled)

71. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body comprises multiple tubular members fluidically connectable to one another.

Claim 72. (Canceled)

73. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the groove is a single continuous groove.

74. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the groove includes multiple intermittent grooves.

Claim 75. (Canceled)

76. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the groove includes transverse ends.

Claims 77.-78. Canceled)

79. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the groove has a length in the range from about 1 cm to about 200 cm.

80. (Original) An intravascular balloon catheter as in Claim 79, wherein the groove has a length in the range from about 1 cm to about 150 cm.

81. (Original) An intravascular balloon catheter as in Claim 80, wherein the groove has a length in the range from about 10 cm to about 150 cm.

82. (Original) An intravascular balloon catheter as in Claim 76, wherein the groove has an opening formed between the transverse ends in the range from 0.001 inches to 0.1 inches.

83. (Original) An intravascular balloon catheter as in Claim 82, wherein the groove has an opening formed between the transverse ends in the range from 0.001 inches to 0.014 inches.

84. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the groove has an inner diameter in the range of about 0.0145 to 0.03 inches.

85. (Original) An intravascular balloon catheter as in Claim 84, wherein the groove has an inner diameter in the range of about 0.016 to 0.02 inches.

Claims 86.-96. (Canceled)

97. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the catheter body distal end includes a distal tip configured to be slidably disposable distal to a distal tip of the balloon structure.

98. (Original) An intravascular balloon catheter as in Claim 26, wherein the balloon structure distal portion lumen includes multiple lumens.

99. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, wherein the balloon structure comprises multiple lumens in a distal portion of the structure.

100. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2 wherein the sleeve forming the passage includes multiple lumens along at least a portion thereof.

Claims 101.-106. (Canceled)

107. (Previously Presented) An intravascular balloon catheter as in Claim 1 or 2, further comprising an inflatable member disposed on an exterior of the sleeve.

Claims 108.-166. (Canceled)